

## CLAIMS

1. A method of automatically controlling fraud in an electronic transaction system, characterized in that it comprises the steps of:
  - 5           · when a user initiates a session in the electronic transaction system, generating an element and storing the element in a database in association with information identifying the user;
  - each time during the session the user commands the  
10       execution of an operation, determining an equation that is satisfied by the element stored in the database;
  - when a sufficient given number of operations has been effected, solving the system of equations consisting of the equations determined as above to deduce the  
15       element therefrom; and
  - by consulting the database, deducing from the element obtained in this way the corresponding information identifying the user.
- 20   2. A method according to claim 1, characterized in that the equations of the system of equations are independent.
3. A method according to claim 1 or claim 2, characterized in that the equations are linear equations.  
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4. A method according to any one of claims 1 to 3, characterized in that the element consists of a series of numerical coefficients.
- 30   5. A method according to claim 4, characterized in that the series of coefficients defines an equation of a hyperplane (H) having (n-1) dimensions in a space (E) having n dimensions and, each time the user commands the execution of an operation, the step of determining an  
35       equation consists in determining the coordinates  

$$(X_i^1, X_i^2, \dots, X_i^n)$$

of a point ( $P_i$ ) in the hyperplane ( $H$ ).

- 5     6. A method according to claim 5, characterized in that the series of coefficients defines an equation of a line ( $D$ ) in a space ( $E$ ) having two dimensions and, each time the user commands the execution of an operation, the step of determining an equation consists in determining the coordinates ( $X_i$ ,  $Y_i$ ) belonging to that line ( $D$ ).
- 10    7. A method according to claim 4, characterized in that the series of coefficients defines the coordinates ( $X_1$ ,  $X_2$ , ...  $X_n$ ) of a point ( $P$ ) in a space ( $E$ ) having  $n$  dimensions and, each time the user commands the execution of an operation, the step of determining an equation  
15    consists in determining the equation of a hyperplane ( $H_i$ ) containing the point ( $P$ ).
- 20    8. A method according to claim 7, characterized in that the series of coefficients defines the coordinates ( $X_1$ ,  $X_2$ ) of a point ( $P$ ) in a space ( $E$ ) having two dimensions and, each time the user commands the execution of an operation, the step of determining an equation  
25    consists in determining the equation of line ( $D_i$ ) passing through the point ( $P$ ).
- 30    9. A system for automatically controlling fraud in an electronic transaction system, characterized in that it comprises first calculation means (108) for generating an element when a user (300) initiates a session in the  
35    electronic transaction system (200), a database (104) in which the element is stored in association with information identifying the user, the first calculation means (108) being adapted to determine an equation that the element stored in the database (104) satisfies each  
time the user (300) commands the execution of an operation in the session, and second calculation means (110) adapted to solve the system of equations consisting

of the equations determined as above to deduce the element therefrom when a sufficient given number (n) of operations has been effected, so that, by consulting the database (104), it is possible to deduce from the element  
5 obtained in this way the corresponding information identifying the user (300).